

## Quarterly Surveillance Report Special Supplement May, 2008

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### Compliance with Radiation Treatment Following Breast Conserving Surgery Montana Central Tumor Registry, 2000 - 2005

Survival and cancer recurrence following breast conserving surgery (BCS or lumpectomy) plus radiation for Stage I breast cancer compare favorably to modified radical mastectomy.<sup>1</sup> The 2007 guidelines of the American College of Surgeons Commission on Cancer specify that women under age 70 should receive a full course of radiation within one year of BCS, unless contraindicated. Women age 70 and older may forgo radiation therapy if their tumors are hormone receptor positive and they receive appropriate hormonal therapy instead.<sup>2</sup> Nationally, 76% of all women had radiation therapy following BCS for Stage I breast cancer in 2005.<sup>3</sup> In Montana, 83% of all women had radiation therapy following BCS in the interval 2000-2005.<sup>4</sup>

A cohort of 1,104 women who had BCS between 2000 and 2005 was identified from the Montana Central Tumor Registry (MCTR): 83% had radiation therapy, it was contraindicated in 1%, refused by 3%, not part of the treatment plan for 7%, and recommended but not performed for 4%. No information was available for the remaining 2% who did not have radiation.

Contraindications cited in the MCTR abstracts included advanced age, frailty, comorbidity, dementia, and Alzheimer's disease. Reasons for refusal included those factors plus preference for other adjuvant treatment (hormonal therapy, chemotherapy), preference for alternative treatment (e.g., complimentary and alternative medicine), and personal circumstances.

Excluding women with documented contraindications or refusals, 134 women did not have radiation as part of the treatment plan or did not comply with recommended radiation. Half were age 70 or older and 40% of those women had hormonal therapy, consistent with treatment guidelines. Hormonal therapy was contraindicated for 49% and no additional information was available for the remaining 11% of women age 70 and older.

Only 9% of all Montana women who had BCS between 2000 and 2005 did not have any kind of adjuvant therapy with no explanation in the MCTR abstract. Abstracts do not contain all information available in patient charts and do not reflect the total decision-making process between physicians and patients.

Distance and access to care are ongoing concerns in Montana, especially for treatments like radiation therapy that are not equally distributed geographically. There are nine radiation oncology centers in Montana plus one in Sheridan, Wyoming and one in Williston, North Dakota, both on main highways very close to the state borders.

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<sup>1</sup> NIH Consensus Conference. Treatment of early breast cancer. 1991. JAMA 265:391-395.

<sup>2</sup> American College of Surgeons Commission on Cancer, 2007: <http://www.facs.org/cancer/qualitymeasures.html>

<sup>3</sup> American College of Surgeons: [http://web.facs.org/ncd/bmr/frames/public9/TABLES/Y05S37XaTa\\_15201900\\_Tb\\_B.html](http://web.facs.org/ncd/bmr/frames/public9/TABLES/Y05S37XaTa_15201900_Tb_B.html)

<sup>4</sup> Montana Central Tumor Registry

## Montana Cancer Control Section

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Among 946 women with complete data for analysis, those age 70 and older were more than three times more likely than younger women not to have radiation therapy (Odds Ratio = 3.3,  $p < .001$ ). Independent of age, women who lived 100 miles or more from a radiation oncology center were nearly three times more likely not to have radiation therapy than women who lived within 100 miles of a radiation oncology center (OR = 2.8,  $p < .05$ ). This achieved statistical significance although only six women who did not have radiation therapy lived 100 miles or more from a radiation oncology center. Distance estimates were based on zip codes of mailing addresses rather than exact residential addresses, which introduces a substantial error in mapping for rural residents. The effect of distance on compliance with treatment guidelines should therefore be interpreted with caution. Lack of insurance was not associated with failure to have radiation therapy. Only 31 women in this analysis lacked any form of medical coverage and 28 of them had radiation therapy.

### Summary

A greater proportion of Montana women had radiation therapy after BCS than women in the US as a whole (83% compared to 76%) between 2000 and 2005, and only 9% of Montana women did not have any form of adjuvant therapy following BCS. Age was the most important characteristic associated with not having radiation therapy. However, nearly half of Montana women age 70 and older who did not have radiation therapy had hormonal therapy, consistent with treatment guidelines.

For many women who did not have radiation therapy, no information was available in the MCTR abstracts to explain the lack. There may have been compelling reasons for lack of radiation or other adjuvant treatment that were not recorded in the MCTR abstracts.

It appears that distance to a radiation oncology center may be a barrier for some women who live 100 miles or more from a center. This assessment should be evaluated cautiously in view of the limitations of the address data available and the very small number of women who did not have radiation therapy who lived that far from a radiation oncology center.

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